

GAO

Report to the Chairman and Ranking  
Minority Member, Committee on Armed  
Services, House of Representatives

September 1999

# EXPORT CONTROLS

## 1998 Legislative Mandate for High Performance Computers



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DTIC QUALITY INSPECTED 4



GAO

Accountability \* Integrity \* Reliability

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## Abbreviations

ACDA	Arms Control and Disarmament Agency
HPC	high performance computer
MOFTEC	Ministry of Foreign Trade and Economic Cooperation
MTOPS	millions of theoretical operations per second
NDAA	National Defense Authorization Act
PSV	post-shipment verification



United States General Accounting Office  
Washington, D.C. 20548

National Security and  
International Affairs Division

B-283584

September 24, 1999

The Honorable Floyd D. Spence  
Chairman  
The Honorable Ike Skelton  
Ranking Minority Member  
Committee on Armed Services  
House of Representatives

In 1996, the executive branch streamlined its export controls for high performance computers by removing licensing requirements for most exports to civilian end-users while focusing control on military and proliferation-related end-users. This streamlined process made exporters responsible for determining if they needed to apply for an export license because they were selling a computer to a military or proliferation-related end-user. In 1997, however, several high performance computers were exported to Russian nuclear weapons laboratories and to a military end-user in China without a license. Concerned that exporters may not be aware of the activities of the end-users they sell to, Congress included a provision in the fiscal year 1998 National Defense Authorization Act (P.L. 105-85) to require exporters to notify the Commerce Department of any proposed high performance exports to countries that pose a concern for military or proliferation reasons<sup>1</sup> to determine if these exports need a license. The act also requires Commerce to verify that high performance computers exported to countries of concern are being used by the appropriate end-user for the intended purpose.

In response to your request, we determined (1) whether exporter notification to Commerce of proposed sales of high performance computers to countries of concern has resulted in license applications and what final action was taken on these licenses and (2) how Commerce is conducting post-shipment verifications of the use of high performance computers after their export to these countries.

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<sup>1</sup>Countries that pose such a concern include China, Russia, India, Pakistan, Israel, and Egypt.

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## Results in Brief

Under the review process required by the National Defense Authorization Act, most of the 938 proposed exports of high performance computers to what were believed to be civilian end-users in countries of concern have generally been allowed to continue without export licenses. Specifically, from February 3, 1998, when procedures implementing the new National Defense Authorization Act became effective, to March 19, 1999, reviewing agencies<sup>2</sup> allowed 828 proposed high performance computer exports to continue without a license, but they required license applications for 101 proposed exports because of military, proliferation, or foreign policy reasons such as human rights violations.<sup>3</sup> The majority of the objections made by reviewing agencies to the 101 proposed exports were based on concerns that the proposed end-users of the high performance computers might have been involved in military or proliferation-related activity. Subsequently, of the 101 license applications required by the National Defense Authorization Act review, 16 were approved and 6 were denied. The remaining 79 were returned to the exporter without action.<sup>4</sup> Licenses that were approved had additional conditions placed on the reexport or end-use of the high performance computers. The majority of these applications involved China, India, and Israel. After the National Defense Authorization Act procedures were implemented, licenses were required for nine exports of high performance computers to end-users of concern who had previously received high performance computer exports without a license.

Post-shipment verifications confirm the physical location of the high performance computers and, to the extent practical, verify if they are being used as intended. However, there are limitations to determining end-use. While the National Defense Authorization Act contains no time limit for completing post-shipment verifications, Commerce has completed verifications on 104 high performance computer exports, or about

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<sup>2</sup>The reviewing agencies include the Departments of Commerce, Defense, Energy, and State. The Arms Control and Disarmament Agency also reviewed cases until March 31, 1999, when the Agency was merged with the State Department.

<sup>3</sup>Nine additional proposed exports were classified as "incomplete" and returned to the exporter without action.

<sup>4</sup>Commerce will return license applications "without action" to exporters at their request or because the required documentation has not been submitted to proceed with the application. Because reviewing agencies have determined that a license is needed to export, returning license applications without action in effect blocks the export.

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27 percent of those verifications required on the 390 high performance computers exported during fiscal year 1998. In a report to Congress, Commerce stated that all 104 post-shipment verifications were favorable, meaning that the computer had been seen during an on-site visit and that nothing was inconsistent with the license or the license exception. However, verification conducted by Commerce but not yet completed detected the possible diversion of two computers to a military end-user, in apparent violation of U.S. export control regulations. The Commerce Department has opened an investigation of these diversions. Of the 286 high performance computer exports that have not yet been verified, almost two-thirds (187) involve exports to China. According to Commerce, the main reasons why these post-shipment verifications were not conducted were that (1) Chinese policy prior to June 1998 did not permit post-shipment verifications to be made or (2) the exports did not meet the requirements agreed upon in a June 1998 memorandum of understanding between the Department of Commerce and China's Ministry of Foreign Trade and Economic Cooperation. Although the National Defense Authorization Act requires post-shipment verifications on all high performance computers exported since November 18, 1997, whether licensed or not, Commerce believes that it is futile to seek to visit high performance computers exported to China before the end-use visit arrangement or without end-user certificates. In addition, they believe it would not be the most effective use of Commerce's limited resources.

## Background

In 1996, the executive branch revised export controls and licensing conditions for high performance computers (HPC) based on the risks specific countries and end-users posed to U.S. national security. The executive branch organized countries into four tiers, with each tier after tier 1 representing a successively higher level of concern to U.S. security interests. Tier 3 contains 50 countries of concern for military or proliferation reasons. The executive branch also established separate control levels for different types of end-users in tier 3. For end-users of military or proliferation concern, the controls require a license to export HPCs performing over 2,000 millions of theoretical operations per second (MTOPS). For civilian end-users in tier 3, the controls require a license to export HPCs that perform over 7,000 MTOPS. For exports of HPCs performing between 2,000 and 7,000 MTOPS, an exporter could ship the computers without a license,<sup>5</sup> provided the exporter determined that the end-user was involved only in civilian activities.<sup>6</sup> The revision did not affect export licensing requirements to the seven countries in tier 4 countries, for which the United States has a virtual embargo on all computer exports.<sup>7</sup> The fiscal year 1998 National Defense Authorization Act requires an exporter to notify Commerce in advance that it proposes to export or reexport HPCs that perform between 2,000 and 7,000 MTOPS to civilian users in tier 3 countries. During a 10-day period, Commerce circulates the notifications to the Departments of Defense, State and Energy, and the Arms Control and Disarmament Agency (ACDA)<sup>8</sup> for review. The NDAA requires a license to export if any of these agencies raises a written objection to the export without a license. According to National Security Council guidance, agency objections shall state whether the proposed

<sup>5</sup>Under 15 C.F.R. Part 740 of the Export Administration regulations.

<sup>6</sup>On July 1, 1999, the executive branch further revised licensing levels for tier 3 countries. The levels for civilian end-users were raised from 7,000 MTOPS to 12,300 MTOPS effective immediately, and for military end-users from 2,000 MTOPS to 6,500 MTOPS effective in 6 months. The executive branch also raised the National Defense Authorization Act (NDAA) notification levels from 2,000 MTOPS to 6,500 MTOPS. By law, this change will take effect 6 months after the executive branch reports the changes to Congress. The revision does not affect the NDAA requirement to conduct post-shipment verifications on all exported computers over 2,000 MTOPS to tier 3 countries.

<sup>7</sup>The seven countries are Iraq, Iran, Libya, North Korea, Cuba, Syria, and Sudan.

<sup>8</sup>On March 31, 1999, ACDA was terminated as an independent entity, and its arms control and nonproliferation functions were merged with those of the State Department. ACDA therefore did not have a role in the NDAA process as a reviewing agency after March 31, 1999.

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export represents a risk of diversion to a military or proliferation end-use or end-user of concern. If no objection is raised during the 10-day period, the exporter may ship the HPCs without a license. Exporters that want to ship HPCs to known military end-users or end-users of proliferation concern must directly apply to Commerce for a license; they do not go through the notification process. In addition, the NDAA requires Commerce to conduct post-shipment verifications on all licensed and unlicensed HPCs above 2,000 MTOPS exported to tier 3 countries. This requirement applies to all HPCs exported from the United States on or after November 18, 1997, the date of enactment of the NDAA.

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## NDAA's Effect on HPC Exports

Of 938 HPC export notifications to tier 3 countries that were reviewed by Commerce between February 3, 1998, and March 19, 1999, the executive branch agencies objected to 101 notifications and, as a result, these notifications were converted to license applications. (App. I contains a detailed breakdown of NDAA notifications, licenses, and license actions.) During this same time period, HPC manufacturers submitted 146 license applications directly to the Department of Commerce. (App. II contains a country breakout of license applications submitted directly to Commerce.) The Arms Control and Disarmament Agency and the Department of Defense raised most of the NDAA objections. Most of the license applications for which objections were raised were returned to the exporter without action, either at the exporter's request or because Commerce had not received additional documentation to act on the application.

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## Executive Branch Agencies' Objections to Exports

Of the 101 objections raised regarding the proposed HPC exports, ACDA and the Department of Defense submitted 59 and 55, respectively; the State Department submitted 14; and Commerce submitted 3. The Department of Energy raised no objections. According to Commerce, an agency will often not object if an objection has already been raised by another agency.

The majority of the objections were based on concerns that the proposed end-users of the HPCs might have been involved in some military or proliferation-related activity. This was particularly evident in ACDA's objections to telecommunications end-users in China. Of ACDA's 59 objections, 39 were for exports to China and 29 of those involved telecommunications end-users, which, according to ACDA officials, have close ties with China's military. The HPCs could therefore contribute to the military's command and control capability. The Defense Department had

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similar concerns with several other civil entities in China about the risk of diversion of HPCs to military end-users/uses.

State, ACDA, and Defense also raised objections based on proliferation concerns: they raised 21 objections over HPC exports to India, primarily because of sanctions imposed on India and Pakistan for the nuclear testing both countries had conducted in May 1998.<sup>9</sup> Before the sanctions took place, objections had been made on proposed HPC exports to research institutes and government entities in India because of the risk of diversion to proliferation end-users/uses, such as missiles or nuclear weapons.

State objected to two HPC exports to Chinese public security entities and one HPC export involving an intermediate consignee in Serbia based on foreign policy and human rights concerns. According to State Department officials, although National Security Council guidance requires that objections state whether proposed HPC exports represent a risk of diversion to military or proliferation end-users or end-uses, it does not rule out the use of foreign policy reasons other than proliferation as grounds for objections. However, Commerce disagrees with State on this matter.

We found that from the NDAA review process, objections were made to nine proposed HPC exports to end-users that had previously received HPCs without a license.<sup>10</sup> Of the nine proposed exports, four were for end-users in China, four were for India, and one was for Israel. The agencies raised objections on the four proposed HPC exports to China based on their potential diversion from telecommunication and university end-users to military and proliferation-related activities. Objections to the four proposed HPC exports to India were based on the sanctions imposed due to proliferation concerns. One objection to a proposed HPC export to Israel involved an Israeli university that might have had connections to proliferation-related activities. Commerce approved a license for one export and returned the remaining eight applications to the exporters without action.

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<sup>9</sup>The President imposed sanctions on June 18, 1998, under the authority of the Arms Export Control Act (22 U.S.C. section 2799aa-1).

<sup>10</sup>These HPC exports, completed prior to NDAA review procedures, did not require a license under the regulations at that time, if the HPC was between 2,000 and 7,000 MTOPS and if the exporter believed the HPC was going to a civilian end-user.



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### Outcome of NDAA Notifications Converted to License Applications for Tier 3 Countries

Of the 101 license applications required by the NDAA review, 16 were approved and 6 were denied. The remaining 79 were returned to the exporter without action. The 16 applications for licenses that were approved included additional licensing conditions. The conditions, which were the same for all 16 licenses, were that (1) no reexport or retransfer of the HPCs could be made without prior Commerce Department approval, (2) the end-user must comply with Security Safeguard Plans,<sup>11</sup> and (3) the exporter must verify delivery and installation of the HPCs.

Six licenses were denied for foreign policy, military, and proliferation reasons. For example, license denials of HPC exports destined for China involved research institutes that were reportedly engaged in military or proliferation activities, and license denials of HPC exports to India involved end-users that were engaged in missile proliferation activities.

As previously mentioned, the majority of license applications required due to NDAA objections (79 of the 101) were returned without action. One reason that applications were returned without action was that the time period for exporters to submit additional information to process the applications (30 days) had expired. Typically, additional information is needed on end-users, remote access end-users, or the entity that will install and/or service the HPCs. The exporter must resubmit a regular export license application if it obtains the required information after the first application has been returned. Applications were also returned at the exporters' requests for various other reasons: the end-user sometimes canceled the order, changed the HPC's MTOPS level to a higher or lower capability, or changed the proposed end-use. For example, in some cases, the exporter canceled the license application and substituted exports of HPCs that performed below 2,000 MTOPS and therefore did not require a license.

Commerce has no system for tracking resubmissions of license applications that were returned without action. The Department instead depends on the memory of its licensing officers or on exporters to inform the Department that they are resubmitting an application. According to a Commerce licensing officer, the Department received very few

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<sup>11</sup>Commerce may require that the exporter submit a Security Safeguard Plan signed by the end-user and, sometimes, also certified by the export control authorities of the importing country. The plan identifies a range of safeguards required by Commerce, which the end-user agrees to implement as a condition for receiving a license.

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resubmissions of applications returned without action that were originally converted to a license application.

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## Implementation of Post-Shipment Verifications Is Incomplete and Has Several Limitations

Section 1213 of the NDAA requires the Secretary of Commerce to conduct post-shipment verifications (PSV) on each HPC exported over 2,000 MTOPS from the United States to a tier 3 country, whether licensed or unlicensed, on or after the date of the statute's enactment, which was November 18, 1997.<sup>12</sup> Commerce uses either export enforcement officers sent from the United States or Foreign Commercial Service officers from U.S. embassies or consulates to perform the PSVs. The PSVs confirm the physical location of the HPC and, to the extent practical, verify if it is being used as intended. However, there are limitations to determining end-use. While the NDAA contains no time limit for completing PSVs, Commerce has completed PSVs on 104 HPC exports, or about 27 percent of those verifications required for the HPCs exported during fiscal year 1998. Commerce reported that all 104 PSVs were favorable. However, a PSV conducted by Commerce that has yet to be completed detected the possible diversion of two computers to a military end-user, in apparent violation of U.S. export control regulations. The Commerce Department has opened an investigation.

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## How Commerce Conducts NDAA-Mandated Post-Shipment Verifications

The Commerce Department uses U.S. personnel from its Bureau of Export Administration or its U.S. and Foreign Commercial Service officers located at U.S. embassies and consulates to conduct NDAA-mandated post-shipment verifications on the use of HPCs. Export Administration teams, which typically comprise two agents, go to a country or a group of countries for a 2- to 3-week period to conduct PSVs and pre-license checks and to meet with businesses to educate them on U.S. export control regulations. During fiscal year 1998, Export Administration teams took two trips to Russia, one trip each to Israel and Egypt, and one trip to India to conduct PSVs. No trips were made to China. Commerce's guidelines instruct the PSV officials to determine

- what the serial number of the HPC is and, if possible, whether the machine has been upgraded;

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<sup>12</sup>The July 1, 1999, revision of licensing levels does not affect the NDAA requirement to conduct post-shipment verifications on all exported computers over 2,000 MTOPS to tier 3 countries.

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- what the location of the HPC is, including a complete address, telephone number, fax number, and the name of a contact person, if the HPC has been resold or retransferred;
  - whether the HPC is being used in a manner consistent with the stated purpose;
  - whether anyone has remote access to the computer and, if so, who does and for what purpose;
  - whether the HPC is located in a secure area and whether the level of security seems consistent with the function performed or seems overly strict for a commercial facility; and
  - whether any activities seem inconsistent with the stated end-use, including indications of ownership or operations by a military organization or involvement of an organization in the design, manufacture, storage, use, or testing of nuclear, chemical, or biological weapons.

When conducting a PSV, officials confirm that the computer has arrived at the intended location and either qualifies for a license exception (if it has been exported without a license) or is being used under the terms of the license. According to an Export Administration official, a favorable PSV means that an HPC has been seen during an on-site visit and that nothing was inconsistent with the license or the license exception. An unfavorable PSV means that an inconsistency was found between the actual end-use and the end-use intended for the export. The Export Administration's Office of Export Enforcement may investigate the inconsistency, depending on its seriousness. In its report to Congress, Commerce said that two HPCs sent to a distributor had been sold to a military end-user in apparent violation of U.S. export control regulations and the matter is under investigation.

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### A Significant Number of Post-Shipment Verifications Have Not Been Completed

During the first year after enactment of the NDAA (Nov. 18, 1997, to Nov. 17, 1998), 390 HPC exports were reported to Congress. PSVs had been completed on 104 (27 percent) of the total, and 286 (73 percent) had not been completed (see table 1). Also, appendix III has a country-by-country breakdown of the reasons why PSVs were not conducted.

**Table 1: NDAA Post-Shipment Verifications on High Performance Computer Exports to Tier 3 Countries, November 18, 1997 – November 17, 1998**

Country	Number of HPCs exported	Number of PSVs completed	Number of PSVs not completed	Percent not completed
China	191	1	190	99.5
Israel	82	42	40	48.8
Russia	33	21	12	36.4
India	29	20	9	31.0
UAE	20	11	9	45
Egypt	11	2	9	81.8
Saudi Arabia	8	2	6	75
Croatia	3	2	1	33.3
Kuwait	2	0	2	100
Ukraine	2	0	2	100
Algeria	1	0	1	100
Angola	1	0	1	100
Bahrain	1	0	1	100
Lebanon	1	0	1	100
Oman	1	0	1	100
Pakistan	1	0	1	100
Azerbaijan	1	1	0	0
Kazakstan	1	1	0	0
Serbia	1	1	0	0
<b>Total</b>	<b>390</b>	<b>104</b>	<b>286</b>	<b>73</b>

Source: Fiscal year 1998 National Defense Authorization Act section 1213 annual report.

Two-thirds of the HPCs that have not yet been verified involved exports to China. According to the Commerce Department, the main reasons why these PSVs were not conducted were that (1) Chinese policy prior to June 1998 did not permit PSVs or (2) the exports did not conform to the June 1998 memorandum of understanding between Commerce and China's Ministry of Foreign Trade and Economic Cooperation (MOFTEC), which is not legally binding. As shown in appendix III, 105 HPCs were exported to China after enactment of the NDAA in November 1997, but before June 1998, when the Commerce-MOFTEC arrangement went into effect. Chinese authorities would not allow PSVs to be conducted on HPCs shipped before June 1998 because of sovereignty concerns. Under the June

1998 arrangement, the Chinese government now allows the United States to conduct PSVs on HPC exports under certain conditions. However, PSVs could not be conducted on 82 HPCs shipped after the June 1998 arrangement because the exports did not conform to the arrangement. According to the Commerce Department, the 82 HPCs were shipped without a license and the exporters were not required to obtain a Chinese end-user certificate. An end-user certificate, issued by China, facilitates Commerce's ability to conduct PSVs in China. It was not until January 14, 1999, that Commerce's Bureau of Export Administration published regulations requiring exporters to obtain a Chinese end-user certificate for any computer over 2,000 MTOPS to China, whether under license or a license exception, and report the information to the Bureau. This requirement, however, became effective only for HPCs shipped after February 11, 1999. Although the National Defense Authorization Act requires post-shipment verifications on all high performance computers exported since November 18, 1997, whether licensed or not, Commerce believes that it is futile to seek to visit high performance computers exported to China prior to the end-use arrangement or without end-user certificates and also that it would not be the most effective use of Commerce's limited resources.

According to Commerce, 89 PSVs are planned for fiscal year 1999, or requests for these visits are pending at embassies or consulates. Many Export Administration trips are scheduled for Saudi Arabia, the United Arab Emirates, India, Israel, Jordan, Egypt, Russia, Pakistan, and China. Seven other PSVs were not done because in two cases the HPC exports were canceled, and in five cases the HPCs were exported to countries for which the NDAA does not require a PSV.

## Scope and Methodology

To determine whether exporter notification to Commerce of proposed exports of HPCs to countries of concern have resulted in applications for licenses and what final action was taken on these licenses, we obtained data on NDAA notifications made by U.S. computer exporters from the Commerce Department's export control database for January 1, 1998, to March 19, 1999. From this data, we quantified the number of (1) NDAA notifications made since procedures implementing the fiscal year 1998 NDAA became effective on February 3, 1998, to March 19, 1999; (2) objections executive branch agencies raised on these notifications during this period; and (3) license applications required from these objections and whether these licenses were approved, denied, or returned to the exporter without action. We also obtained the basis of agency

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objections to NDAA notifications by interviewing agency officials, reviewing their files on the objections, and reviewing the types of end-users and end-uses. Further, using data from the Commerce Department export control database, we determined the reasons why licenses were returned without action and denied. In addition, we determined whether the executive branch is requiring licenses on end-users that previously received HPC exports without a license. We compared data on unlicensed exports to tier 3 countries from January 1, 1996, to September 30, 1997, with NDAA notifications that required a license from February 3, 1998, to March 19, 1999.

To assess how the Commerce Department is carrying out the requirement to conduct post-shipment verifications on all HPC exports to tier 3 countries, we interviewed Commerce officials to discuss the various methods they use to conduct PSVs and how they assess their results. We also reviewed Commerce guidelines for conducting PSVs on HPCs and reviewed trip reports submitted by Export Enforcement Special Agents conducting PSVs under the Commerce's safeguards program during 1998. To determine to what extent Commerce had complied with the NDAA requirement that all HPC exports be verified, we (1) reviewed the legal requirements for the PSVs in section 1213 of the fiscal year 1998 National Defense Authorization Act and (2) analyzed data presented in the report mandated by section 1213 of the NDAA, to determine to what extent HPC exports had been verified and the reasons why PSVs had not been performed. In addition, we reviewed the June 1998 memorandum of understanding between Commerce and China's MOFTEC concerning PSVs conducted in China and discussed its provisions with officials from the General Counsel's Office of Commerce's Bureau of Export Administration.

We conducted our review between November 1998 and July 1999 in accordance with generally accepted government auditing standards.

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## Agency Comments and Our Evaluation

We provided copies of this report to the Departments of Commerce, Energy, Defense, and State. Energy did not comment on the report. The State Department provided oral technical comments, which we incorporated accordingly. The Defense Department reviewed the report and had no comments. Commerce said that the report did not acknowledge that it had to divert enforcement resources from investigations and other preventive enforcement activities to conduct NDAA-mandated post-shipment verifications and that it will soon be impossible to perform such verifications mandated by the NDAA. Commerce believes it will

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become impossible to perform PSVs in the future because computer power is increasing and prices are declining. Commerce, however, could not identify any cases in which PSVs could not be done on non-NDAA cases because available resources were used on NDAA cases. In addition, Commerce officials provided no supporting analysis showing at what point it would be impossible to conduct all mandated verifications. Commerce also had some technical changes that we incorporated into the report as appropriate.

Commerce also commented that the licenses required from the NDAA notification process for HPC exports to nine end-users of concern, who previously received HPC exports without a license, represented only 2.61 percent of those exports previously made without a license before the NDAA. We agree that these nine cases represent a small proportion of those HPCs exported without a license before the NDAA, but they illustrate that the NDAA notification process is working and has been successful in identifying suspect end-users.

Commerce stated that most uncompleted PSVs were in China and that 103 of 200 outside of China were completed. Table 1 and supporting narrative shows that most uncompleted PSVs were in China.

Commerce said that it is futile to seek to visit HPCs exported to China prior to the end-use visit arrangement or without end-user certificates, particularly in view of the proposed changes to control levels for exports to tier 3 military end-users. We agree with Commerce that the proposed changes to the control levels would remove all future licensing requirements for many HPCs that have already been exported to China. Nevertheless, the NDAA currently requires Commerce to conduct PSVs on all licensed and unlicensed HPCs above 2000 MTOPS exported to tier 3 countries, including China, notwithstanding the control levels established by the executive branch.

Commerce and Defense Department written comments are reprinted in appendixes IV and V.

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We are sending copies of this report to the Honorable William M. Daley, Secretary of Commerce; the Honorable Bill Richardson, Secretary of Energy; the Honorable William S. Cohen, Secretary of Defense; and the Honorable Madeleine K. Albright, the Secretary of State. We will also make copies available to other interested parties on request.

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Please contact me or F. James Shafer on (202) 512-4128 if you or your staff have any questions concerning this report. Key contributors to this assignment were Charles T. Bolton and Jason Fong.

A handwritten signature in cursive script, reading "Harold J. Johnson". The signature is written in dark ink and is positioned above the printed name.

Harold J. Johnson, Associate Director  
International Relations and Trade Issues



# NDAA Notifications and License Actions, February 3, 1998 – March 19, 1999

Country <sup>a</sup>	NDAA notifications				NDAA licenses			
	Approved	License required	Incomplete <sup>b</sup>	Total	Approved	Denied	RWA	Total
China	442	59	2	503	9	3	47	59
Russia	91	3	0	94	0	1	2	3
Israel	82	10	3	95	0	0	10	10
UAE	29	0	0	29	0	0	0	0
India	18	21	0	39	6	2	13	21
Egypt	17	1	1	19	0	0	1	1
Saudi Arabia	17	4	1	22	1	0	3	4
Kuwait	16	1	0	17	0	0	1	1
Romania	13	0	0	13	0	0	0	0
Norway	11	0	0	11	0	0	0	0
Qatar	10	0	0	10	0	0	0	0
Ukraine	7	0	0	7	0	0	0	0
Kazakhstan	7	0	0	7	0	0	0	0
Croatia	7	0	0	7	0	0	0	0
Lebanon	6	0	0	6	0	0	0	0
Bahrain	5	0	0	5	0	0	0	0
Lithuania	5	0	0	5	0	0	0	0
Estonia	5	0	0	5	0	0	0	0
Jordan	5	0	0	5	0	0	0	0
Serbia	4	0	0	4	0	0	0	0
Latvia	4	0	0	4	0	0	0	0
Oman	4	0	0	4	0	0	0	0
Australia	3	0	0	3	0	0	0	0
Bulgaria	3	0	0	3	0	0	0	0
Hong Kong	3	1	0	4	0	0	1	1
Belgium	2	0	0	2	0	0	0	0
Cyprus	2	0	0	2	0	0	0	0
Singapore	0	0	2	2	0	0	0	0
Morocco	2	0	0	2	0	0	0	0
Azerbaijan	2	0	0	2	0	0	0	0
Angola	2	0	0	2	0	0	0	0
Belarus	2	0	0	2	0	0	0	0
Algeria	1	0	0	1	0	0	0	0

Appendix I  
NDAA Notifications and License Actions,  
February 3, 1998 - March 19, 1999

Country <sup>a</sup>	NDAA notifications				NDAA licenses			
	Approved	License required	Incomplete <sup>b</sup>	Total	Approved	Denied	RWA	Total
Yemen	1	0	0	1	0	0	0	0
Germany	0	1	0	1	0	0	1	1
<b>Total</b>	<b>828</b>	<b>101</b>	<b>9</b>	<b>938</b>	<b>16</b>	<b>6</b>	<b>79</b>	<b>101</b>

Legend

NDAA=National Defense Authorization Act  
RWA=Returned Without Action  
UAE=United Arab Emirates

<sup>a</sup>Several NDAA notifications involved tier 1 and 2 countries because the intermediate consignee for the export was located in a tier 3 country or the HPC was to be used on a ship going into the territorial waters of a tier 3 country.

<sup>b</sup>Returned without action to the exporter because incomplete information was submitted or the export required a license.

Source: Commerce's Bureau of Export Administration Export Control Database.

# Decisions for HPC License Applications Submitted Directly to the Commerce Department, January 1, 1998 – March 19, 1999

Country	Approved	Denied	RWA	Total
China	12	0	25	37
Russia	12	2	17	31
India	11	5	8	24
Saudi Arabia	7	0	8	15
Oman	2	0	2	4
Romania	0	0	1	1
Switzerland	0	0	1	1
Poland	0	0	1	1
UAE	2	0	11	13
Belarus	0	1	2	3
Syria	2	0	7	9
Bahrain	0	0	1	1
Kazakhstan	2	0	0	2
Australia	2	0	0	2
Bulgaria	1	0	0	1
Pakistan	0	1	0	1
<b>Total</b>	<b>53</b>	<b>9</b>	<b>84</b>	<b>146</b>

## Legend

RWA=Returned Without Action

UAE=United Arab Emirates

Source: Commerce's Bureau of Export Administration Export Control Database

# Reasons Why NDAA Post-Shipment Verifications Were Not Completed

Country	Number of PSVs not completed	Chinese policy prior to the end-use arrangement did not permit such checks <sup>a</sup>	Transaction does not conform to U.S. arrangement with China for end-use checks <sup>b</sup>	Request is pending at post	Check is planned for coming year	Other <sup>c</sup>
China	190	105	82	3	0	0
Israel	40	0	0	16	20	4
Russia	12	0	0	11	0	1
India	9	0	0	0	9	0
UAE	9	0	0	0	7	2
Egypt	9	0	0	0	7	2
Saudi Arabia	6	0	0	0	6	0
Croatia	1	0	0	1	0	0
Kuwait	2	0	0	0	2	0
Ukraine	2	0	0	2	0	0
Algeria	1	0	0	0	1	0
Angola	1	0	0	0	1	0
Azerbaijan	0	0	0	0	0	0
Bahrain	1	0	0	0	1	0
Kazakhstan	0	0	0	0	0	0
Lebanon	1	0	0	1	0	0
Oman	1	0	0	0	1	0
Pakistan	1	0	0	1	0	0
Serbia	0	0	0	0	0	0
<b>Total</b>	<b>286</b>	<b>105</b>	<b>82</b>	<b>35</b>	<b>55</b>	<b>7</b>

## Legend

PSV=Post-shipment Verification

HPC=High performance computer

<sup>a</sup>Exports occurred prior to June 1998 arrangement between the United States and China for post-shipment checks.

<sup>b</sup>Exports shipped without a Chinese end-users certificate, which is required for post-shipment verifications.

<sup>c</sup>Includes two HPCs located on ships controlled by companies in countries that do not require a PSV under the NDAA, three HPCs reexported to countries not requiring a PSV under the NDAA, two HPC exports canceled, and a PSV for two HPC exports that has not been completed but is under investigation.

Source: Fiscal year 1998 NDAA section 1213 annual report.

# Comments From the Department of Commerce



**THE SECRETARY OF COMMERCE**  
Washington, D.C. 20230

AUG 25 1999

Mr. Harold J. Johnson  
Associate Director  
International Relations and Trade Issues  
General Accounting Office  
Washington, D.C. 20548

Dear Mr. Johnson:

Thank you for providing the Commerce Department with an opportunity to comment on your draft report on the review of National Defense Authorization Act Notification (NDAA) procedures for high performance computers (GAO code 711399).

I appreciate the cooperation of your evaluators in this study. The enclosed comments from the Bureau of Export Administration contain our few concerns with your draft report.

Should you have any questions, or need further information, please contact William A. Reinsch, Under Secretary for Export Administration, at (202) 482-1455.

Sincerely,

A handwritten signature in dark ink, appearing to read "William M. Daley", is written over a horizontal line.

William M. Daley

Enclosure

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Appendix IV  
Comments From the Department of  
Commerce

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Comments on GAO Draft Report on  
National Defense Authorization Act Notification Procedures  
for High Performance Computers (GAO code 711399)

**GENERAL COMMENT:**

The report does not address the diversion of enforcement resources from investigation and preventive enforcement activities to conduct National Defense Authorization Act (NDAA) mandated post shipment verifications (PSV). To fulfill the NDAA mandate, we visit, in some cases repeatedly, banks, telephone service providers, insurance companies, and similar entities that pose an extremely low risk of proliferation of weapons of mass destruction. This problem will only get worse as computer power increases and prices decline. When the NDAA provision was enacted, a top-of-the-line personal computer had a CTP of about 250 million theoretical operations per second (MTOPS). Today, a top-of-the-line personal computer has a composite theoretical performance (CTP) over 1,200 MTOPS. Several manufacturers have introduced dual processor desktop workstations with CTPs that exceed 2,000 MTOPS. It will soon be impossible to visit all of these computers.

**SPECIFIC COMMENTS:**

Now on p. 3.

Page 2, second paragraph, last sentence. From the time CTP was initiated through the end of 1997, 344 shipments were made to Tier 3 countries. Due to the NDAA notification process, exports to nine end-users of concern who had previously received high performance computer (HPC) shipments under CTP required licenses. That represents only 2.61 percent of the exports previously made under CTP. This information should be included to present a more realistic picture. Additionally, the report omits the final disposition of those nine NDAA conversions. The way the sentence is currently structured, it creates a negative impression. The report should include the fact that four of the nine cases were for India, where there was a change in U.S. policy after the NDAA took effect. Those cases were returned without action. Of the remaining five cases, one was approved and four returned without action for lack of sufficient licensing information. All of the nine consignees had a favorable licensing history.

Now on p. 3.

Page 2 of the report states that as of November 1998, we had verified only 27 percent of the 390 HPC exported to Tier 3. As noted in the report, most of the uncompleted PSVs were in China. For Tier 3 countries outside of China, we completed 103 verifications out of 200 exports. There is a normal time lag between the date of export and the time that the PSV is conducted so there will always be some uncompleted PSVs reported. Aside from one problem involving an export of two computers that is under investigation, there is nothing in the data outside China to indicate that we were unable to conduct the mandated checks. As for China, we are working with the Chinese Government to improve our access to U.S. origin items in China.

Now on p. 4.

Page 2. At the present time, we believe it is futile to seek to visit HPCs exported to China prior to the end use visit arrangement or without end user certificates. In addition, given that the President has indicated his intention to raise the control level for Tier 3 exports to military end

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Appendix IV  
Comments From the Department of  
Commerce

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- 2 -

users from 2,000 MTOPS to 6,500 MTOPS, we do not believe visiting these older computers is the most effective use of our limited resources.

Page 7, first full paragraph, second sentence. The words, "the memory of its licensing officers or on," should be deleted from the sentence.

Now on p. 8.

# Comments From the Department of Defense



**Defense Threat Reduction Agency**

45045 Aviation Drive  
Dulles, VA 20166-7517

AUG 4 1999

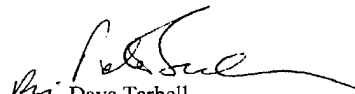
Mr. Harold J. Johnson  
Associate Director  
International Relations and Trade Issues  
National Security and International Affairs Division  
U.S. General Accounting Office  
Washington, D.C. 20548

Dear Mr. Johnson:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "EXPORT CONTROLS: 1998 Legislative Mandate for High Performance Computers," dated July 19, 1999 (GAO Code 711399/OSD Case 1864).

DoD has reviewed the report and has no comments.

Sincerely,

  
Dave Tarbell  
Director  
Technology Security



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